



CMS Platform Overview for **Higher Education**

INGENIUX

Content beyond boundaries

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Executive Summary

Great content is like rocket fuel. It can attract, inform, and persuade.

Colleges and universities understand the importance of digital content and great web experiences. From delivering on the promise of the brand, message and mission of the school, to supporting a forum of ideas and services, digital content plays a key role in the life of every higher education institution.

We created Ingeniux CMS because great content needs a platform. Teams need to work together to create compelling content. Institutions need to manage, govern and deliver digital content, anywhere, on any device, in any format.

Ingeniux CMS empowers departments and marketing to work together to create and manage engaging content and integrate key systems that improve the online experience.

In our two decades of working in higher education we have gained the insight and experience to deliver content management that work for the modern campus. From our suite of higher education solutions, to our web CMS, portal, intranet, and search platforms, we deliver a complete solution for the campus web.

Our goal is to help you deliver your best digital experience.

Let's get started!

Core Principals of Ingeniux CMS

Ingeniux has completely rebuilt its CMS platform and the user experience. The new Ingeniux CMS is modern, easy-to-use, and designed to deliver engaging experiences on any device.

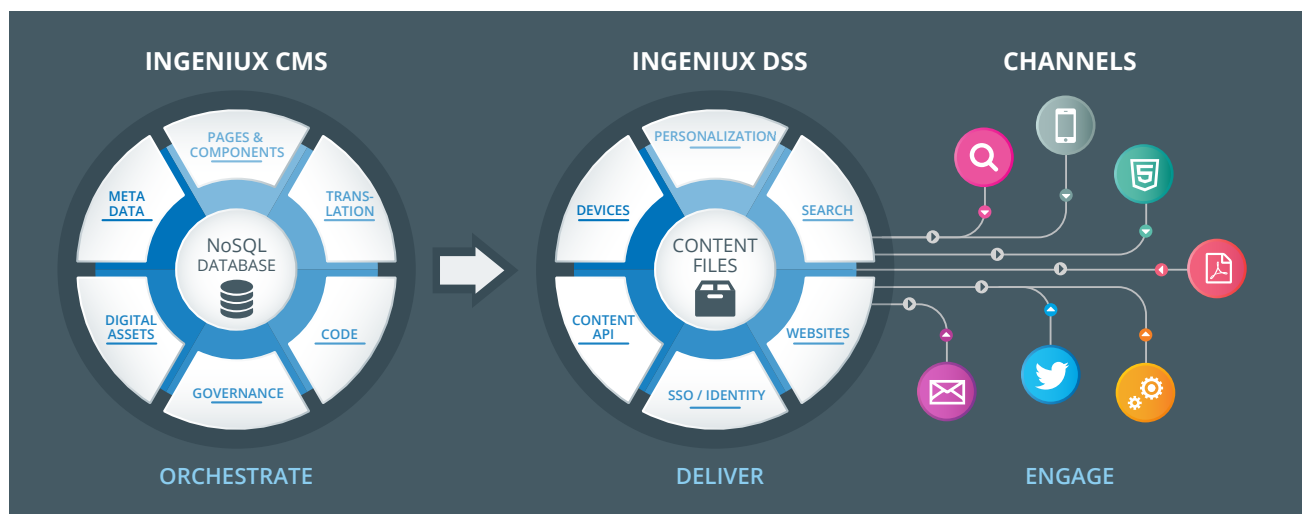
Modern

The Ingeniux technology difference is a truly decoupled architecture, open content API, visual responsive page building, and technology agnostic approach that supports development and integration across a wide range of technology platforms

and applications. It's a new architecture designed for a new world of connected websites, devices and applications powered by digital content.

Cloud-Ready

Ingeniux is the leading provider of cloud-based content management solutions. With ten plus years of Software-as-a-Service success, a global network, and 24 x 7 support and service, we provide digital content management built for the cloud.



Intelligent

We empower the world's leading companies, associations, universities, government organizations, and non-profits to craft engaging digital content that resonates with customers and community members.

Our intelligent content model helps companies shift from a static, one-size fits all experience, to a more personalized contextual experience based on things such as the visitor profile, account-data, history, channel or device.

Agile

Ingeniux is used across the entire organization: Marketing for Website and Commerce, HR, and Communications for Intranets, Customer Service for Customer Portals, Knowledge and Support, and Technical Documentation for digital document publishing.

Our content management and collaboration platform provides a centerpiece for enabling digital transformation. Ingeniux software aligns business units, and customer touch points with a common set of content, applications, business rules, and secure membership services. It extends beyond the website to work deeply with marketing automation, CRM, ERP, and enterprise applications.

Ingeniux is the content engine that powers the modern higher education digital experience.

Ingeniux for Higher Education

From our inception, Ingeniux has been committed to supporting the needs of higher education.

Ingeniux CMS is built on open standards and supports the accessibility requirements educational institutions must follow. We provide a decoupled content and publishing model that enables the sharing of content across internal and external higher education experiences.

Our platform is designed to connect with other leading technologies in higher

education, including popular CRM, Learning Management, and ERP systems.

Ingeniux manages hundreds of websites, portals, and intranets for colleges and universities. Our professional service staff have years of expertise in higher education requirements and technology supporting a range of large universities, community colleges and graduate programs. Beyond software, our community of higher education customers and professionals come together to support shared innovation.

Higher Education Features in Ingeniux

To support the requirements of higher education institutes Ingeniux provides the following features and capabilities:

Directory

Ingeniux CMS for higher education provides a campus directory to maintain student, faculty and administration listings. This directory can be available on the public website and internally on the Campus Intranet.

Pull in source information from other systems and then build on this information by creating custom metadata to create a complete profile for each student, faculty, administration member or department. Enable students, faculty and departments to manage their profiles, securing those elements of the profile that can't be changed.

Link Directory profiles to the Course Catalog. Website visitors can see detailed information

Central University Welcome, Jennifer







Logout Blackboard CU Home

Announcements Directory Calendar Documents Discussions Departments & Services

HOME / DIRECTORY

Directory

Search Directory ... Department

Name	Contact	Department	Location
 Allen Buchanan	Phone: (206) 123-4567 Email: email@domain.com	Associate Professor Accounting Program	Jordan Student Academic Center 2247
 Andreas Kappes	Phone: (206) 123-4567 Email: email@domain.com	Career Consultant	Jordan Student Academic Center 1235
 Christine Korsgaard	Phone: (206) 123-4567 Email: email@domain.com	Career Resource Specialist	Jordan Student Academic Center 6541
 Katrien Devolder	Phone: (206) 123-4567 Email: email@domain.com	Professor, Information Systems	Jordan Student Academic Center 2255
 Frances Kamm	Phone: (206) 123-4567 Email: email@domain.com	Professor, Law, Ethics, & Entrepreneurship	Jordan Student Academic Center 2255
 Hannah Maslen	Phone: (206) 123-4567 Email: email@domain.com	Associate Professor, Statistics	Sorenson Language Center 1218

Requested Departments

- Accounts Payable (Vendors)
206-651-5296
- Admissions Office / Visitors
Center 206-651-5750
V: 206-651-5753
- Admissions (Graduate)
206-651-5400
- Audiology (Hearing and Speech)
206-651-5328
- Department of Public Safety
206-651-5445
- Financial Aid
206-651-5290
- Central Conference & Hotel
206-651-6000
VP: 206-156-5874
- Model Secondary School for the
Deaf 206-651-5031

on faculty by clicking the instructor in the course listing or if searching for a faculty member in the Faculty Directory, display a listing of their courses.

The Directory can be filtered by type of profile so only current faculty members and campus administrators are listed on the website, and not students.

Course Catalog

Many institutions offer their course catalog online but find themselves managing both an online and print copy separately. This separation of catalog management often leads to inconsistent content and outdated print copies.

Ingeniux CMS provides a publishing system that streamlines catalog production by creating and managing the catalog content within the CMS and then publishing it to multiple channels – the website, the Intranet, print. Ingeniux CMS can output catalog content to print based systems such as PDF, InDesign and Quark.

The benefits of managing course catalog content within the CMS are many. It's one place to securely manage all course content leveraging the workflow, versioning and rollback in addition to security. Ingeniux can also integrate with ERP systems as well as Learning Management Systems, pulling in information required to complete the course catalog.

Susquehanna UNIVERSITY

ALUMNI FACULTY + STAFF PARENTS + FAMILIES FRIENDS + DONORS

ACADEMICS ADMISSION & AID CAMPUS LIFE ABOUT SU

SEARCH Q APPLY +

COURSE CATALOG

Course Catalog Home

Academic Calendar

Elements Of A Susquehanna Education

Schools And Programs

Academic Policies And Regulations

Course Listing

Academic Departments

Directory

Home | Academics | Arts Administration Program - Catalog

Search Catalog: Q View By Major / Minor: Select Major / Minor

Arts Administration

MINOR REQUIREMENTS

The interdisciplinary minor in Arts Administration is designed for students with a strong interest in pursuing arts operations careers or enhancing their academic study of arts-related disciplines from a business perspective. Through this minor, students will learn how foundational business principles are applied to the philosophy and practice of arts operations, and gain an understanding of the professional ethics and personnel management issues associated with working in the fine arts.

The Minor in Arts Administration is appropriate for those considering careers in performing arts administration, arts education, museum operations, drama literary management, artistic direction and music administration.

SEMESTER HOURS View Full Course Catalog >>

4 MGMT-290 Non Profit Management

4 ACCT-200 Financial Accounting

4 MUSC-275 Intro to Arts Leadership

And 12 semester hours chosen from the following:

THEA-152 Understanding Theatre, MUSC-101 Introduction to Music or MUSC-250 Classical and Romantic Music

THEA-246 Scenic Design or THEA-340 Stage Management & Theatre Operations

ACCT-340 Governmental & Nonprofit Accounting

MGMT-360 Management and Organizational Behavior or MGMT-280 Marketing

COMM-211 Public Relations or ENGL-299 Professional & Civic Writing

THEA 501 Production Lab or MUSC 504 Internship (repeatable once)

Campus News

Every higher education institution needs to share news and events with the general public, as well as with internal communities. Ingeniux CMS provides a News module that enables multiple departments and community groups with the institution to create new and publish news stories internally and externally.

Provide direct access to departments and community groups to submit news. Enable self-publishing or implement workflow policies for review and approval. Develop taxonomies to support the filtering of content by topics, departments or communities and enable users to subscribe to the news they want by category or department.

Forms Builder

The Ingeniux Forms Builder Module lets you create web forms in minutes. Visually design forms using the CMS content preview and editing experience. Post form data as XML, to a database or via email. Forms Builder is also extensible via the CMS content model. You can also integrate third-party forms and applications including marketing automation systems and legacy business forms.

Alerts & Notifications

The Ingeniux Web Alerts module enables site administrators to instantaneously create alerts and notifications for the website. With the ability to post alerts through the CMS or through a web form, the Web Alerts module ensures important notifications are posted on the website, even when the CMS server cannot be accessed.

The Web Alerts module is an ideal way to post critical, time sensitive updates to the website, such as closures due to inclement weather, event cancellations or power outages. The default appearance is an alert banner at the top of the home page. The banner can also be added to other web pages and can be customized to match the existing website brand.

Alerts can be used on the external website and the Intranet or community site.

LMS Integration

Ingeniux CMS integrates with leading Learning Management Solutions including Moodle, Blackboard, Sakai. Set up single sign on to the LMS from your Campus Intranet or Campus Community.

Within a campus intranet, create web pages that list the courses the student attends, courses they are required to take, along with notifications, grades and other information – all without having to enter the LMS system.

ERP, CRM and Marketing Automation Integration

Ingeniux CMS also integrates with a number of third-party software including ERP, CRM and Marketing Automation.

- ERPs include Banner and PowerCAMPUS from Ellucian, Datatel and PeopleSoft.
- CRMs include Technolutions Slate, Salesforce and Microsoft Dynamics
- Marketing Automation Systems include Marketo and Pardot

Integrate with ERPs to connect student and faculty profiles, registration, course catalog information, financial aid and more.

Creating engaging experiences with prospective students, alumni and donors through integration with marketing automation. Marketing automation systems enable marketers to develop targeted messaging and communications on the website and via email and newsletters.

Search

Ingeniux provides powerful built-in search for Ingeniux CMS. Search leverages the semantic XML structure of content, taxonomy and metadata to deliver a complete suite of search capabilities including guided and faceted search, and federated search. Search is also used to create a dynamic search-based architecture for related and recommended content.

Ingeniux search also provides secure Intranet search, filtering results based on user access rights and permissions.

Community

Campus Community provides a complete online community software solution. It comes with a set of modules for creating student and faculty engagement, a secure membership database for managing passwords, accounts, and permissions, and moderation tools for managing your community. Modules include blogs, forums, groups, social networking, documents, and other solutions.

Ingeniux Community can also provide a location for parents and alumni to keep up to date on what's happening in the institution, share experiences and ask questions.

Intranet

The Intranet is often the overall Hub for the university providing centralized access to university systems and information. Leverage a wide range of features including staff directories, forums, blogs, calendars, workspaces, and links to news and events, and other key systems such as the LMS.

Event Calendar and Registration

The Ingeniux Event Calendar Module provides a complete calendar and event registration solution. You can deliver event information based on categories or keywords; view daily, weekly, or monthly calendars; and syndicate event information using RSS.

The screenshot displays the Central University Intranet interface. At the top, a green header bar features the university logo, a welcome message for 'Jennifer', and navigation links for 'Logout', 'Blackboard', and 'CU Home'. Below this is a dark blue navigation bar with tabs for 'Announcements', 'Directory', 'Calendar', 'Documents', 'Discussions', and 'Departments & Services'. The main content area is divided into several sections: a large image of students, a 'DIRECTORY SEARCH' box, a 'MY CENTRAL' sidebar with links to various services, a 'KEY LINKS' section, and a 'FROM THE BLOG' section. The 'ANNOUNCEMENTS' section includes news about a psychology major and a book battle. The 'EVENTS' section lists upcoming grade deadlines and a spring break shuttle bus. The 'RECENT ACTIVITY' section shows system maintenance and emergency text sign-up.

Content editors can add a listing of category-specific events to their pages by dragging-and-dropping a calendar component onto a web page.

Enable campus groups to submit and manage their events without the intervention of administrators and provide integrated or separate listings of events.

Accessibility

Higher Education institutions support a wide range of people with diverse abilities. Accessibility is a key requirement for both the public website and Intranet. Ingeniux CMS supports key web accessibility guidelines such as Section 508 and WCAG.

Ingeniux CMS For Administrators

Ingeniux offers a wide range of features to support the creation, management and delivery of content. This section describes how website and Intranet administrators and content authors use the CMS.

How Content is Managed in the CMS

Ingeniux CMS is designed to optimize content reuse. Content is modeled in XML schemas using the Ingeniux Schema Designer and natively available as XML or

JSON. The content model is very rich and designed to maximize content reuse by structuring content, separating content from presentation, supporting metadata, and component-based content chunking.

Ingeniux provides a powerful tagging and classification system for applying topical categories to content. Taxonomy supports browse-by-topic navigation, faceted navigation, guided search, related content, tag clouds, audience segmentation, and other capabilities.



Creating and Editing Digital Content

Ingeniux uses cross-platform browser-based web clients for content authoring.

The authoring experience is available using In-Context Editing, which allows authors to edit content using a set of editing controls available in the preview of the web page. It offers forms-based editing which supports a Microsoft Office-like editing experience that exposes all of the content and metadata for a given page. Content authoring is designed for non-technical users and does not require any technology knowledge outside of basic PC skills.

Ingeniux also offers a complete preview system for viewing content on desktop, mobile, and tablet devices. Preview can also be set up to run as a service on external servers where you may view external applications and services for pages that consume content outside of the CMS application environment (such as an external web application).

Templates and Pages

There are a couple of ways to create templates and web pages within Ingeniux. Ingeniux offers a templating framework to create content type templates using the

coding language of choice. Templates can be created directly within Ingeniux using ASP.Net or using a code-editor such as Visual Studio.

Ingeniux also offers Page Builder, a design tool for creating visual layouts leveraging existing themes/designs or creating new ones without coding. You can create templates or reusable visual designs for a content type in Page Builder. Also, you can customize an existing design to create bespoke areas of the website.

The Page Builder system employs open standard responsive design approaches and does not require development to create new layouts. All designs and content created are mobile friendly and responsive by default.

Workflow

Ingeniux provides a fully integrated content workflow system. Design workflows using a Visio-like visual workflow designer that enables trusted users to easily model workflows using work states (boxes) and transitions (arrows). Work states and transitions may be defined arbitrarily within the workflow designer, allowing users to map workflows to their exact business process and terminology. Workflow

templates provide best practice starting points for common workflow processes (single approver, double approval, content translation, etc.).

Workflow actions are triggered at each transition. Actions are used to automate CMS tasks, such as check-in, archive, schedule start and end dates, publish, send email notification, and post to social media. You can also use workflow as a business process tool for executing custom actions and integration with custom end-points. For end users workflow is as simple as advancing a page to the next state and sending a transition message if desired. Content can be advanced or rescinded or can bridge to other workflows.

Multi-Lingual

With Ingeniux CMS you can publish content using a wide range of character sets. Ingeniux CMS supports bidirectional (bidi) text, UTF-8, Unicode, and other character formats, empowering teams to publish web pages in any language regardless of the text flow or encoding. Ingeniux CMS comes standard with English, French, Spanish, German, Italian, Japanese, Chinese, Korean, and other language packs.

Develop your taxonomy once and use it for every language variation, maintaining search capabilities, facets, audience targeting, and browse-by-category capabilities. Ingeniux CMS offers pre-built workflows designed to make translation easy and manageable. Starting a translation only requires one click.

The Site Definition Manager provides a tool to track localization of site templates and assets, including individual page elements, components, workflows, and page creation rules.

The Ingeniux Translation Dashboard enables content creators to import and export content for localization. With connectors for many leading localization solutions and a flexible interface, Ingeniux can integrate seamlessly into your existing translation process.

Managing Digital Assets

Higher education institutes produce a great deal of digital assets across departments and groups, typically managing them in separate silos. However, in higher education, digital assets are often the main element of a web experience as seen

particularly with videos and infographics, along with social media content for sites like Instagram and Facebook. What this tells us is that managing digital assets in a silo by different teams or departments can no longer happen.

Ingeniux treats digital assets as first class citizens. To manage and use digital assets in the same way as text-based content, assets are mapped to the taxonomy and the appropriate metadata is applied. This mapping improves how assets are found and displayed in search, as well as on web pages (including personalized web experiences).

Giving a wider range of users' access to manage digital assets where they create web pages and text-based content improves the agility and speed of the user to create and update content.

You can upload multiple images, documents, media files, templates, and other assets using the Ingeniux Digital Asset Manager. Assets are editable including full metadata and usage rights, supporting group-level security and collaboration.

The number of times a digital asset is viewed doesn't tell you a great deal about the importance of that digital asset. Knowing where that asset is used on the website or mobile site, and in what context tells you how useful the asset is and if you need to improve it, create more similar assets, or replace it with something different.

Having digital assets managed within the same WCM platform should help reduce the number of redundant or duplicate assets because you can use a single asset across Web, mobile, and social experiences.

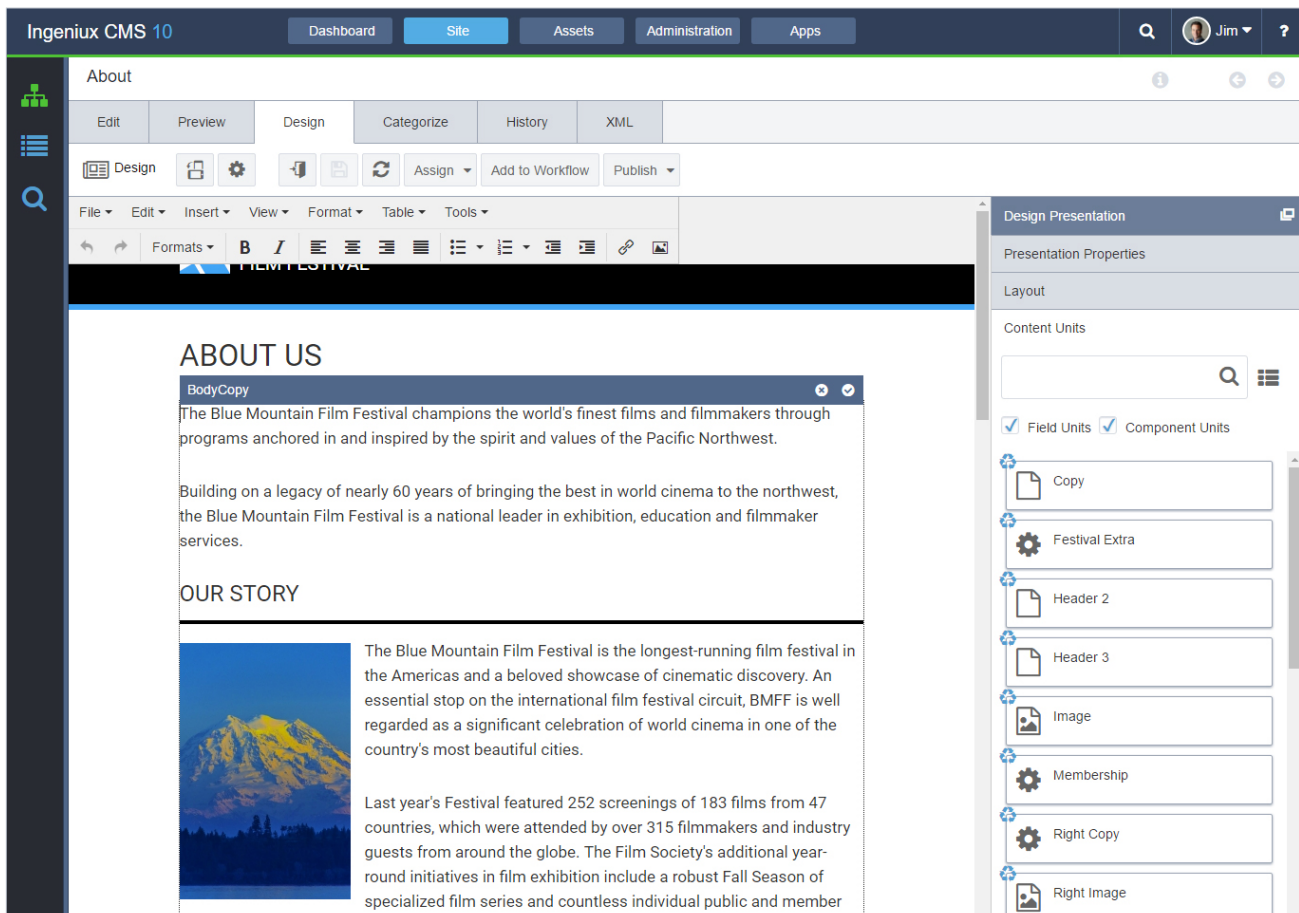
For Digital Marketers

Building Today, and Tomorrow's Student Experiences

Ingeniux CMS is an ideal solution for digital marketing teams within higher education institutes. It is easy to create and deliver web pages without any developer or IT support, provides powerful built-in marketing tools, and supports leading marketing automation and campaign solutions.

Personalization

Ingeniux supports a robust personalization system that allows you to target elements of content within a web page to different visitors based on clickstream behavior, visitor profile, website membership, geo-location, or marketing segment. Marketers or content managers can preview content for each segment to simulate what content would be displayed/hidden based on user type.



The system tracks page views - even for anonymous visitors - and has a scoring system to assign scores/values to different pages and actions to allow users to implicitly self-identify their preferences. The targeting system can also combine/layer multiple data points to create an extremely targeted experience with minimal extra work for CMS content managers.

Mobile Experiences

Ingeniux CMS supports mobile experiences out of the box. The Ingeniux Dynamic Site Server is a device aware-application that detects the user agent and device for each content request. Ingeniux CMS can target and render content based on device types and capabilities.

Ingeniux CMS preview supports desktop, tablet, and smartphone content emulation and preview. The software is pre-loaded with standard device previews. You can load additional previews from the Device Library, a device profile library of over 20,000 mobile devices that is automatically updated weekly with new specifications.

In addition, because Ingeniux delivers content-as-a-service, marketers developing and delivering native mobile applications can easily connect to Ingeniux and retrieve the content they require.

Web Forms

Ingeniux Forms Builder is a web forms application available within the CMS software. Forms can easily be built using visual design through the CMS content preview and editing experience. Forms Builder provides a default processor written in ASP.NET that can post form data as an XML form post, to a database, or via email. Forms Builder is extensible via the CMS content model and supports plugging in different processors.

Ingeniux also supports a wide range of forms integration options within the CMS application to support third party forms integration, including using external form URLs, double-post, and other options.

Marketing Automation & CRM Integration

Ingeniux integrates with leading marketing automation platforms such as Marketo and Pardot. It also integrates with Salesforce CRM, Dynamics CRM and other CRM systems. These integrations enable Ingeniux to import customer profile information to personalize content experiences as well as export customer information back to these systems to update profile information.

Landing Pages

Marketers use Ingeniux to create landing pages for campaigns run from their marketing automation platform. Ingeniux integrates with the leading marketing automation platforms to pull profile information. It supports progressive profiling and can send registration form data to the campaign in the MA platform.

Content Marketing

Content Marketing is a primary tactic for digital marketers and Ingeniux is the perfect CMS to support it. One of Ingeniux's key differentiators is its support for both structured (blog posts, articles, web pages) and unstructured content (whitepapers, ebooks, documents).

Marketers can use Ingeniux to create a wide range of content marketing assets from blog posts and articles, to whitepapers and ebooks and manage them within the CMS. They can quickly create landing pages, both gated and ungated, for these content assets, and connect with MA platforms to include content assets within marketing campaigns.

Email Newsletters

Ingeniux offers a newsletter module which enables organizations to create and send newsletters with ease. Marketers can create email-optimized templates, add responsive views for mobile devices and automate content reuse to populate email newsletters.

SEO

Ingeniux provides a complete set of SEO features and metadata support. URLs are automatically canonical, providing greater authority. The CMS issues permanent redirects whenever you move content, or URLs are changed, ensuring all inbound links continue to work. Integrated Sitemaps.org compliant XML site maps are published and integrated with Google Web Master Tools.

SEO metadata is available in the CMS edit form. It is completely flexible but comes with pre-set elements for Title, Description, Google-bot instructions, and optional Open Graph tags for social sharing. Metadata is automatically populated based on the web page content, but you can overwrite it within the edit control.

Analytics

Ingeniux provides web analytics dashboards on a page-by-page and site-wide basis. Analytics data is integrated via a provider

model with pre-built connectors for Google Analytics, WebTrends, and Omniture SiteCatalyst. Each Publishing Target in Ingeniux CMS can have a unique analytics provider.

For IT

Understanding Environments

Ingeniux CMS is designed to support multiple development, staging, and production environments.

Publishing and Synchronization

Ingeniux CMS supports delivery of content to multiple formats and replication of content to multiple locations.

In deploying, Ingeniux CMS supports “early binding” static HTML and other file types, as well as “late binding” dynamic deployment using the Ingeniux ASP.NET Dynamic Site Server.

Ingeniux can also deploy content using third-party server technologies, including Java Server Pages, PHP, or Adobe Cold

Fusion. In these cases, content delivery is handled by the web server and any dynamic content processing is managed by the targeted server programming technology. Ingeniux CMS replicates content to multiple locations for website and content deployment using built-in syncing and replication. Automatically deploy web content, code, assets and templates from development through production. Ingeniux supports multiple replication options, including secure FTP, WAN-LAN, and File

Ingeniux CMS is designed to support multiple development, staging, and production environments.

Share. Replication is bi-directional and updates byte level changes, quickly syncing the differences across targets. Replication is based on the Microsoft Sync Framework.

Multi-site Publishing

Ingeniux is designed to manage an unlimited number of websites and to control the content reuse, staging, security, and delivery between them. With Ingeniux CMS, you can define separate environments for each website, staging and test environment. Content is checked in and out of each environment, maintaining separation for approved and work-in-progress content items. Publishing targets define where content is physically replicated when it is published and the format it is delivered in, providing the ability to manage sites using different technology standards and templates.

Mobile Capabilities

Ingeniux supports both responsive and adaptive delivery of content.

Adaptive Mobile Delivery:

Ingeniux supports adaptive HTML5 web technologies like jQuery Mobile, Sencha, and others. It delivers content to task-based web apps that leverage single-sourced content and information architecture for adaptive mobile web experiences and services. Ingeniux also offers a library of best practice mobile templates.

Responsive Design:

Ingeniux natively supports the Bootstrap 3.x and Foundation 5.x responsive frameworks. A plug-in system supports additional responsive frameworks. The Ingeniux Page Builder uses responsive frameworks to generate the grids in which content items are added, and rows and columns set to visually layout a new page or modify an existing template.

The Ingeniux Dynamic Site Server is a device aware-application that detects the user agent and device for each content request. Ingeniux CMS can target and render content based on device types and capabilities.

Ingeniux packages a device profile library of over 20,000 mobile devices that is automatically updated weekly with new specifications. Use the library for loading emulations and real-time device and capabilities detection for intelligent content display.

Digital Asset Management

The Digital Asset Manager supports true federation; including integration of Microsoft SharePoint lists for document management, media servers and CDN's for rich media storage, and file level storage in NAS and SAN systems.

Ingeniux integrates with all leading CDNs including Akamai, Azure, and Limelight.

Governance

Ingeniux has a robust governance model, including security and permissions for users, groups, and content assets, along with page creation rules.

Users, Groups, and Roles:

Cascading Authentication authenticates a user into the CMS software. Supporting single sign-on integration with Active Directory, LDAP, the CMS users system, and a host of custom providers, Cascading Authentication enables organizations to utilize multiple identity providers to manage access and group-level security in the CMS.

Content Level Permissions:

Apply access rights to any content item in the CMS application. Within the CMS client content may be full access, read only, or hidden. Component and element level permissions may also be applied to secure portions of a web page. External access rights can be applied to content that requires log-in or authentication on the live website to view gated information.

Using the global group settings users are restricted to what features are visible

within the CMS client, whether they can publish content or just advance content in a workflow, what elements of a page they can edit, whether they can roll-back content to previous versions and many other options. The Group user manager provides security templates for simplifying permission management.

In addition, the following administrative capabilities exist within Ingeniux CMS:

Comments on Ingeniux CMS posts and pages are moderated using a dashboard. Content can be flagged as inappropriate for each comment block. Comments can be reviewed and approved ad hoc or en masse.

The CMS client software can be configured with the features and views for each user group. Drag-and-drop customization tools allow you to define menus, available features, editing views and other options.

Reporting:

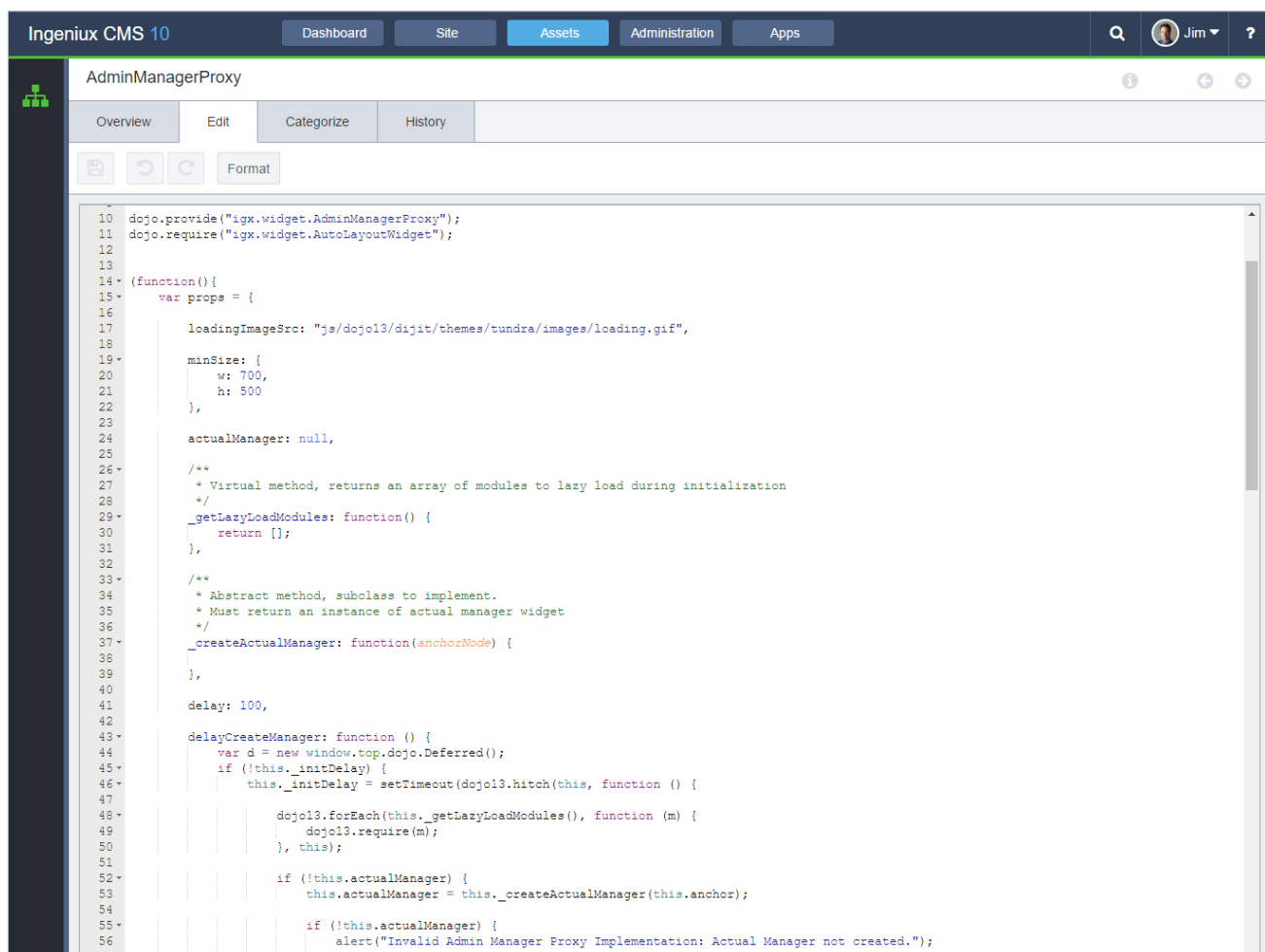
The Ingeniux CMS provides a full reporting interface, with a complete set of content management reports. You can create custom reports. Reports may be scheduled to run automatically, or you can export data as CSV or Microsoft Excel files.

For Developers

Implementation Approach

Ingeniux software is built on the latest Microsoft technology; including ASP.NET 4.5 and MVC 5.0. Ingeniux is the ideal solution for professional ASP.NET developers and agencies, providing an innovative content

development model based solely on open web standards, deep integration with IDE's such as Visual Studio, and an accessible REST-based API that delivers the power of intelligent content without the overhead of traditional tightly coupled CMS applications.



The screenshot displays the Ingeniux CMS 10 interface, specifically the AdminManagerProxy widget configuration page. The top navigation bar includes tabs for Dashboard, Site, Assets, Administration, and Apps. The main content area shows the AdminManagerProxy widget with tabs for Overview, Edit, Categorize, and History. The Edit tab is active, displaying a code editor with the following JavaScript code:

```
10 dojo.provide("igx.widget.AdminManagerProxy");
11 dojo.require("igx.widget.AutoLayoutWidget");
12
13
14 (function() {
15     var props = {
16
17         loadingImageSrc: "js/dojo13/dijit/themes/tundra/images/loading.gif",
18
19         minSize: {
20             w: 700,
21             h: 500
22         },
23
24         actualManager: null,
25
26         /**
27          * Virtual method, returns an array of modules to lazy load during initialization
28          */
29         _getLazyLoadModules: function() {
30             return [];
31         },
32
33         /**
34          * Abstract method, subclass to implement.
35          * Must return an instance of actual manager widget
36          */
37         _createActualManager: function(anchorNode) {
38
39         },
40
41         delay: 100,
42
43         delayCreateManager: function () {
44             var d = new window.top.dojo.Deferred();
45             if (!this._initDelay) {
46                 this._initDelay = setTimeout(dojo13.hitch(this, function () {
47
48                     dojo13.forEach(this._getLazyLoadModules(), function (m) {
49                         dojo13.require(m);
50                     }, this);
51
52                     if (!this.actualManager) {
53                         this.actualManager = this._createActualManager(this.anchor);
54
55                     if (!this.actualManager) {
56                         alert("Invalid Admin Manager Proxy Implementation: Actual Manager not created.");
57                     }
58                 }));
59             }
60             d.resolve();
61         }
62     };
63     dojo.extend(this, props);
64 }());
```

APIs

Ingeniux provides a faster, more agile platform for developing ASP.NET-based websites and applications. It features a true three-tier architecture, support for the latest ASP.NET technologies including MVC and the Razor view engine, full Visual Studio integration, and open RESTful API elements.

Ingeniux CMS provides a Developer API written in ASP.NET. The API is available in REST and SOAP. The CS API provides access to the content store and CMS application services. It is built around a NoSQL document database. The DSS API provides access to the content delivery tier and is used to integrate content in applications and web templates.

The Ingeniux API is session-based and transaction-oriented, provides full support for LINQ syntaxes, and uses a modern object structure and naming conventions for ease of use and development. It is also concurrent and supports multi-threading for high-performance applications and deployment via ASP.NET, and MVC.

Schema Builder

Content is modeled in XML schemas using the Ingeniux Schema Designer. The content model is very rich and designed to maximize content reuse by structuring content, separating content from presentation, support for meta data, and component-based content chunking.

There are over 25 standard element types, such as Text (string), XHTML (WYSIWYG editing), image, media file, database query, navigation, etc., that can be used to define the data model for a document. The elements are parsed by the CMS to provide the authoring forms and user interface. The Ingeniux Schema Designer provides versioning and control as well as syncing and replication to propagate changes across existing content items. The Schema Designer allows content models to change and web administrators to selectively update existing content with those changes.

Content stored in the NoSQL document database is schema-free. Any changes to the content model are automatically available within the CMS repository.

Working with Code as an Asset

Developers who need to make small, quick updates to the code can do so without having to open desktop tools such as Visual Studio. Essentially you can develop end-to-end on the browser with no heavy requirements for client-based code editors.

Visual Studio Integration

Ingeniux CMS supports template development in Visual Studio. An Ingeniux site is a standard ASP.NET project in Visual Studio. Ingeniux content and information is available as a Web Service directly within Visual Studio.

Remote Preview

Remote Preview can be set up to run as a service on external servers where you may view external applications and services for pages that consume content outside of the CMS application environment.

Working with Raven DB

Ingeniux CMS uses the RavenDB NoSQL database. It is a native.NET NoSQL database that doesn't add an extra footprint to the technical and hardware architecture. RavenDB also works with Lucene, which is the backbone to the Ingeniux search architecture.

Deployment Options

Ingeniux is architected from the ground up for cloud delivery.

Ingeniux Managed Cloud / SaaS

Ingeniux CMS software-as-a-service and cloud services provide customers with a fully deployed and managed web presence and application environment. The CMS application and website are hosted in the Ingeniux cloud using virtual servers over an extensive grid of computers. The back-end CMS application uses a NoSQL framework designed for cloud hosting, and the deployment tier supports CDN and auto-scaling with fast file-based delivery and edge caching.

Ingeniux goes beyond traditional multitenant SaaS solutions by providing each customer with a dedicated environment for its Ingeniux CMS application. Using this approach, each customer can define the network configuration needed to meet business, security, and compliance requirements.

The Ingeniux approach also provides greater flexibility: upgrade when you want, manage file-level access, write customizations and integrations, install additional applications or databases, and, perhaps most importantly, move the application to your servers if you want in the future.

The cloud provides greater scalability, less management overhead for IT teams, and the peace of mind of having one number to call to address your web software, performance, and uptime services.

Public Cloud / PaaS

Ingeniux provides managed hosting solutions that enable businesses of all sizes to accelerate growth and scale operations while controlling costs and reducing IT

infrastructure support risks. Our industry-leading software-as-a-service goes beyond traditional hosting by providing application management, change management, performance management, and application optimization. Ingeniux CMS is the first content management solution to bring together the flexibility of the public cloud with the security, performance, and control that enterprises demand.

OnPremise

Not every organization is ready to move to the cloud, or they have business needs that require them to run software on their internal networks. For those customers, Ingeniux provides on premise edition of Ingeniux CMS.

OnPremise provides the ability to install Ingeniux CMS software on dedicated servers or VMs and configure publishing targets to deploy content to multiple web servers or other endpoints within the network or other locations. OnPremise is available with a perpetual license to the software and an unlimited support and maintenance program.

Closing Remarks

Higher education marketers need to think and act like digital marketers. They need to understand their customer personas from prospective students, parents, alumni and donors, to internal constituents such as current students, faculty and administration. Each experience is different yet can offer similar content and capabilities.

Integrations with key systems such as LMS and ERP are critical to ensure the consistency of information and the creation of a single source of information.

The Ingeniux approach is to provide an agile content management platform with the capabilities to easily deliver engaging digital experiences across all channels and devices

from the external website to the Intranet and Communities.

Ingeniux has reoriented the CMS application to support more open, rapid and lighter weight development and helps higher education institutes create smarter content. Ingeniux also provides specific modules and components needed for engaging and effective higher education website and Intranet experiences.

With the ability to easily manage distributed content contribution, digital marketing, translation and global deployment, and multi-channel mobile delivery, Ingeniux empowers digital innovation for the modern higher education institution.

About Ingeniux

Work With People Who Understand Ingeniux makes content management work on campus. Used by over 140 colleges and universities, we offer best-in-class content management software and .edu website solutions, including

- Course catalogs, event calendars, intranets, newsletters, and other EDU solutions
- Professional service staff with expertise in EDU requirements and technology
- Standards-based technology that supports XHTML, CSS and accessibility requirements

Our team understands your challenges. We are committed to providing cost-effective solutions that allow you spend less time managing the web and more time achieving your goals.

Contact Us

To learn more about Ingeniux web content management solutions for higher education, call our Higher Education Solutions group at 206.788.4305 or e-mail info@ingeniux.com.

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